# Central Alaska Network Inventory and Monitoring Program Metadata Summary Report — Wrangell-St. Elias National Park and Preserve



Title Abstract

1982-1990 Ranger Trip Reports

Project start date: Project end date:

Contact: Sharp, Hunter Format:

1987 Plant Species List for Flora Hills, Yakutat District, WRST

Project start date: Project end date:

Contact: Cook, Mary Beth Format: FIREPRO report

1996 Specimens of Selected Vascular Taxa at ALA (23 pp.)

Project start date: Project end date:

Contact: Cook, Mary Beth Format:

2001 Alpine Plants of WRST

Project start date: Project end date:

Contact: Cook, Mary Beth Format: plant databases

**Investigators Annual Report** 

Project start date: Project end date:

Contact: Bleakley, Geoff Format:

Plant taxonomic, collections and site databases

Project start date: Project end date:

Contact: Cook, Mary Beth Format:

**Archeology** 

**Archeological Site Records, Survey Reports** 

Project start date: Project end date:

Contact: Jesperson, Michelle Format:

**Botany** 

1982-2001 Vegetation Management Reports

Project start date: Project end date:

Contact: Cook, Mary Beth Format: ProCite database

1985 Copper River Vegetation Study Landcover Map

Project start date: Project end date:

Contact: Cook, Mary Beth Format: Report, arcview digital

layer, data sheets

1985 USGS EROS Landcover Map

Project start date: Project end date:

Contact: Cook, Mary Beth Format: Report, arcview digital

layer

1986-1990 Mining EIS WRST Landcover

Project start date: Project end date:

Contact: Rosenkrans, Danny Format: 5 study areas, landcover

and habitat

1986-2001 Vegetation and Wetland Surveys for Mining Compliance and Environmental Assessments throughout WRST

Project start date: Project end date:

Contact: Cook, Mary Beth Format: Field notes and summary

reports, soils information

1986-87 Nabesna River Grazing Study: Vegetation

Project start date: 6/11/1986 Project end date: 6/17/1986

Contact: Cook, Mary Beth Format: Original copies of field

forms.

Documentation of vegetation and resource conditions of leased land allotments. Observations of wildlife grazing activity on allotments are included. Vegetation species identified; vegetation heights, use, conditions, and pellet counts recorded. Project ran concurrent with and included areas studied within the Vegetation Data & Incidental Reports for Grazing Leases study of 1987-1988. Accession

Printout date: 1/5/2004

number: WRST-00170.

1986-Present, Vegetation Literature ProCite Database

Project start date: Project end date:

Contact: Cook, Mary Beth Format: database

1987 Assessment of Nabesna Road Gravel Pits, revegetation and non-native species

Project start date: Project end date:

Contact: Cook, Mary Beth Format: Field notes, summary

tables, report

1987 Grazing Habitat Study Databases

Project start date: Project end date:

Contact: Cook, Mary Beth Format: report, digital files

1987 Plant Species List for Blossom Island, Yakutat District, WRST

Project start date: Project end date:

Contact: Cook, Mary Beth Format: FIREPRO report

1987 Plant Species List for Karr Hills, Yakutat District, WRST

Project start date: Project end date:

Contact: Cook, Mary Beth Format: FIREPRO report

1987 Plant Species List for Samovar Hills, Yakutat District, WRST

Project start date: Project end date:

Contact: Cook, Mary Beth Format: FIREPRO report

1987 Plant Species List for the Arrowhead, Icy Bay, Yakutat District, WRST

Project start date: Project end date:

Contact: Cook, Mary Beth Format: FIREPRO report

1987 Plant Species List for the Nabesna District

Project start date: Project end date:

Contact: Cook, Mary Beth Format:

1987 Preparing Park-Wide Trail Inventory Data for Analysis Using SPSS

Project start date: Project end date:

# 1987 Trail Inventory Database Description

Project start date: Project end date:

Contact: Cook, Mary Beth Format:

# 1987 Vascular Plant Species List for Gold Hill, Vicinity of Chisana, Nabesna District, WRST

Project start date: Project end date:

Contact: Cook, Mary Beth Format: species list, specimens,

notes

### 1987 Vascular Plant Species List for the Yakutat District, WRST

Project start date: Project end date:

Contact: Cook, Mary Beth Format: FIREPRO report

### 1987-88 Vegetation Data & Incidental Reports for Grazing Leases

Project start date: 6/15/1987 Project end date: 7/29/1987

Contact: Cook, Mary Beth Format: Original copies of field

forms.

Documentation of vegetation and resource conditions of leased land allotments. Observations of wildlife grazing activity on allotments are included. Vegetation species identified; vegetation heights, use, conditions, and pellet counts recorded. Project ran concurrent with and included areas studied within the Nabesna River Grazing Study, 1986-1987. (Data collected: June 15, 26-30, 1987; July 22-24, 29, 1987) Accession number: WRST-00171.

### 1988 FIREPRO Database

Project start date: Project end date:

Contact: Cook, Mary Beth Format: FIREPRO report

#### 1988 Herbarium Databases, WRST

Project start date: Project end date:

Contact: Cook, Mary Beth Format:

### 1988 Rex Creek Reclamation Study (3 Year Progress Study)

Project start date: Project end date:

Contact: Cook, Mary Beth Format: report, field notes, plant

species list, specimens,

35 mm slides

1989 & 1992 Icy Bay Successional Study

Project start date: 8/25/1989 P

Project end date: 8/23/1992

Contact: Cook, Mary Beth

Format: Original copies of field

forms.

Fourteen permanent transects were established in 1989. Vegetative cover was read using Daubenmire methodology (August 25-30, 1989). Transects were reread in 1992 (August 20-23). One new transect was established in the barren community type and one beach transect had to be reestablished since the original transect had been washed away by a stream. Accession number: WRST-00156.

# 1989 Alaska Resources Library - Bibliography of ATV literature

Project start date: Project end date:

Contact: Cook, Mary Beth Format:

### 1989 Green Butte Mine Site and McCarthy Creek Access Veg Description and Annotated Milepost

Project start date: Project end date:

Contact: Cook, Mary Beth Format: report, field notes, plant

species list, specimens,

35 mm slides

### 1989 Icy Bay Mine Assessment

Project start date: Project end date:

Contact: Cook, Mary Beth Format: report, field notes, plant

species list, specimens,

35 mm slides

# 1989 Kotsina Road, Silver Star and Pandora Mine Site Survey

Project start date: Project end date:

Contact: Cook, Mary Beth Format: report, field notes, plant

species list, specimens,

35 mm slides

# 1989 Landstat TM Image for Mining EIS Landcover Map

Project start date: Project end date:

Contact: Cook, Mary Beth Format: arcview digital layer

## 1989 Plant Species List for Summit Lake

Project start date: Project end date:

Contact: Cook, Mary Beth Format: species list, specimens,

notes

1989 Plant Species List, Vascular Plant Range Extensions and Herbarium Specimen List

Project start date: Project end date:

Contact: Cook, Mary Beth Format:

1989 Rambler Mine Site Survey

Project start date: Project end date:

Contact: Cook, Mary Beth Format: field notes, plant

specimens, 35 mm slides

1989 Vascular Plant Range Extensions of Wrangell-St. Elias National Park & Preserve (11 pp.)

Project start date: Project end date:

Contact: Cook, Mary Beth Format:

1990 Air Quality Monitoring Study

Project start date: 6/26/1990 Project end date: 7/1/1990

Contact: Cook, Mary Beth Format: Original copies of field

forms.

Three traverses, each containing 3 sampling sites within 200 m of each other and with a minimum of 50 m between locations, were positioned at intervals near the proposed 10M coal-fired power plant site (near the NW boundary of WRST.) At each site, samples were collected of Hylocomium splendens (Hedw.) BSG (feather moss, whole plant, including rhizoids), Peltigera aphthosa (L.) Willd. (ground lichen, whole plant), Picea glauca (Moench) Voss. (white spruce, twigs and needles), and the O2 horizon soil. Baseline ranges reported for each media. (Data collected: June 26-30, July 1, 1990) Accession number: WRST-00158.

1990 East Sitkagi Bluffs Proposed Mine Site Plant Species List, Yakutat District, WRST

Project start date: Project end date:

Contact: Cook, Mary Beth Format: field notes, maps, 35 mm

slides, report

1990 Resource Inventory of the Chitistone Trail

Project start date: Project end date:

Contact: Cook, Mary Beth Format: Report, field notes, maps

1992 Berg Lake and Taan Fjord Photopoint Documentation

Project start date: Project end date:

Contact: Cook, Mary Beth Format: FIREPRO report

1992 New Plants Observed on the Arrowhead During the 08/92 Trip

Project start date: Project end date:

Contact: Cook, Mary Beth Format: species list, specimens,

notes

1992 Rare Plants of WRST

Project start date: Project end date:

Contact: Cook, Mary Beth Format:

1992 Specimens at ALA from Cordova, Middleton Island, Bering Glacier, Icy Bay and Yakutat Quadrangles

Project start date: Project end date:

Contact: Cook, Mary Beth Format:

1992 Vascular Plant Collections for DENA LTEM Determinations Made by UAF Specialists

Project start date: Project end date:

Contact: Cook, Mary Beth Format:

1992 Vascular Plant Range Extensions of WRST (22 pp.)

Project start date: Project end date:

Contact: Cook, Mary Beth Format:

1992 Vascular Plants Observed at Agazziz Nunatak, 08/18/92

Project start date: Project end date:

Contact: Cook, Mary Beth Format: species list, specimens,

notes

1992 Vascular Plants Observed at Moore Nunatak, 08/18/92

Project start date: Project end date:

Contact: Cook, Mary Beth Format: species list, specimens,

notes

1992 Vascular Plants Observed on the East Side of the Tyndall Glacier, 08/17/92

Project start date: Project end date:

Contact: Cook, Mary Beth Format: species list, specimens,

notes

1993 Floristic Survey of Two Sites in the Ogilvie Mountains and a Slope near Hillard Peak

Project start date: Project end date:

Contact: Cook, Mary Beth Format:

1993 Status Survey of Taraxacum carneocoloratum, a USFWS Species of Concern

Project start date: Project end date:

Contact: Cook, Mary Beth Format: Field notes, summary

data, report

1994 Locations of Taraxacum carneocoloratum in WRST

Project start date: Project end date:

Contact: Cook, Mary Beth Format:

1994 Plant Community and Sensitive Species Survey of the Proposed Visitor Center Site, WRST

Project start date: Project end date:

Contact: Cook, Mary Beth Format:

1994 Plant Databases Structures and Descriptions

Project start date: Project end date:

Contact: Cook, Mary Beth Format:

1994 Species List for the Yakutat Forelands

Project start date: Project end date:

Contact: Cook, Mary Beth Format:

1994-1997 Inventory of Vascular Flora North of Bagley Icefield

Project start date: Project end date:

Contact: Cook, Mary Beth Format: Field notes, maps aerial

overlays, 35 mm slides, summary analysis & tables, reports, databases,

etc.

# 1995 Collection Data for Rare Plants (16 pp.)

Project start date: Project end date:

Contact: Cook, Mary Beth Format:

# 1996 Collection Data for Plants in Herbarium and Uncataloged Specimens

Project start date: Project end date:

Contact: Cook, Mary Beth Format:

# 1996 Collection Data For Rare Plants (57pp.)

Project start date: Project end date:

Contact: Cook, Mary Beth Format:

# 1996 Report on Plant Collections Made in WRST, June 8-18

Project start date: Project end date:

Contact: Cook, Mary Beth Format:

# 1996 Specimens at ALA from Wrangell-St. Elias National Park & Preserve

Project start date: Project end date:

Contact: Cook, Mary Beth Format:

# 1996 Specimens of Selected Taxa Stored at ALA

Project start date: Project end date:

Contact: Cook, Mary Beth Format:

# 1996 Specimens of Selected Vascular Taxa at ALA (2 pp.)

Project start date: Project end date:

Contact: Cook, Mary Beth Format:

# 1996 Vascular Plant Species List for Totschunda Creek Floodplain - Floristic Inventory Site 81, WRST

Project start date: Project end date:

1997 Floristic Inventory and Collections from Selected Sites within WRST

Project start date: Project end date:

Contact: Cook, Mary Beth Format:

1997 Pacific Meridian Landstat TM Imagery

Project start date: Project end date:

Contact: Cook, Mary Beth Format: report, planning

document, hard copy of 1:63,000 veg maps parkwide, digital layer in

arcview

1998 (March) Collection Data for Alaska Natural Heritage Program Element Occurrences

Project start date: Project end date:

Contact: Cook, Mary Beth Format:

1998 Collection Data for All Specimens Known to Occur in WRST

Project start date: Project end date:

Contact: Cook, Mary Beth Format:

1998 Collection Data for Rare Plants, Endemics, and Range Extensions (88 pp.)

Project start date: Project end date:

Contact: Cook, Mary Beth Format:

1998 Collections Data for Specimens in the Herbarium

Project start date: Project end date:

Contact: Cook, Mary Beth Format:

1998 Collections of Brassicaceae from WRST

Project start date: Project end date:

1998 Endemic Plants of WRST: Biogrography, Habitat, Taxonomy, Park Distribution and Park Collections

Project start date: Project end date:

Contact: Cook, Mary Beth Format:

1998 Kennecott Vegetation Documentation for the Kennecott Cultural Landscape Report

Project start date: Project end date:

Contact: Cook, Mary Beth Format: report

1998 List of Taxa New to Alaska, Rare Plants, Endemics and Range Extensions

Project start date: Project end date:

Contact: Cook, Mary Beth Format:

1998 Mentasta Mountains Vascular Plant Survey

Project start date: Project end date:

Contact: Cook, Mary Beth Format: field notes, plant

specimens, report

1998 Plant Traditions of the Ahtna

Project start date: Project end date:

Contact: Cook, Mary Beth Format: Field notes, database,

summary report

1998 Rare and Endemic Plants of the Chugach Mountains, WRST

Project start date: Project end date:

Contact: Cook, Mary Beth Format:

1998 Rare and Endemic Plants of the Mentasta Mountains, WRST

Project start date: Project end date:

Contact: Cook, Mary Beth Format:

1998 Rare and Endemic Plants of the Nutzotin Mountains, WRST

Project start date: Project end date:

1998 Rare and Endemic Plants of the St. Elias Mountains, WRST

Project start date: Project end date:

Contact: Cook, Mary Beth Format:

1998 Rare and Endemic Plants of the Wrangell Mountains, WRST

Project start date: Project end date:

Contact: Cook, Mary Beth Format:

1998 Rare Plant Sighting Forms

Project start date: Project end date:

Contact: Cook, Mary Beth Format:

1998 Spruce Bark Beetle Landcover Map

Project start date: Project end date:

Contact: Cook, Mary Beth Format:

1998 Vegetation Documentation for the Bremner Cultural Landscape Study

Project start date: Project end date:

Contact: Cook, Mary Beth Format: field notes, summary

tables, report, specimens

1998 Vegetation Documentation for the Kennecott National Historic Landmark Environmental Assessment

Project start date: Project end date:

Contact: Cook, Mary Beth Format: report

1998 Vegetation Documentation for Wiki Basin Archeological Survey

Project start date: Project end date:

Contact: Cook, Mary Beth Format: plant specimens, field

notes, summary tables, 35

mm slides

### 1999 Stand and Landscape Level Analyses of Spruce Bark Beetle Infestation

Project start date: Project end date:

Contact: Cook, Mary Beth Format: Field notes, data sheets,

summary data (digital), 35 mm slides, maps, voucher specimens, GIS themes,

# 1999 Statement of Findings for Executive Order 11990 (Wetlands Protection) ten year mining plan of operations Big Eldorado Creek Claim Group

Project start date: Project end date:

Contact: Cook, Mary Beth Format: field notes, summary

tables, report, specimens

# 1999 Vegetation Documentation for the Crystalline Hills Trail Environmental Assessment

Project start date: Project end date:

Contact: Cook, Mary Beth Format: field notes, report,

specimens

# 1999 Vegetation Documentation for the Fales Mining Plan of Operation Environmental Assessment

Project start date: Project end date:

Contact: Cook, Mary Beth Format: field notes, specimens,

report

#### 2000 A Field Guide to Rare Vascular Flora of WRST

Project start date: Project end date:

Contact: Cook, Mary Beth Format: plant databases

# 2000 Expected Vascular Plant Species

Project start date: Project end date:

Contact: Cook, Mary Beth Format:

#### 2000 List of Vascular Plant Collections Made in WRST

Project start date: Project end date:

Contact: Cook, Mary Beth Format: plant databases

2000 Vascular Plant Species List

Project start date: Project end date:

Contact: Cook, Mary Beth Format: plant databases

2000 Vegetation Documentation for the Proposed McCarthy Campgrounds

Project start date: Project end date:

Contact: Cook, Mary Beth Format: maps, reports, aerial

photogrphs, digital veg maps, field notes, plant

specimens

2000 Vegetation Survey of Grizzly Lake

Project start date: Project end date:

Contact: Cook, Mary Beth Format: field notes, specimens, 35

mm slides

2001 Batzulnetas Trail Reconnaisance, Summary and Recommendations

Project start date: Project end date:

Contact: Cook, Mary Beth Format: field notes, 35 mm slides,

report

2001 Comparison of natural and geosynthetic materials for surface hardening of ATV trails

Project start date: Project end date:

Contact: Cook, Mary Beth Format:

2001 Expected Vascular Plant Species for WRST by Landscape Position and Site Moisture

Project start date: Project end date:

Contact: Cook, Mary Beth Format: plant databases

2001 List of Non-Native Vascular Plants Known to Occur in WRST

Project start date: Project end date:

Contact: Cook, Mary Beth Format: plant databases

2001 List of Poa Specimens Sent to Rob Soreng at the US National Herbarium

Project start date: Project end date:

Contact: Cook, Mary Beth Format: plant databases

2001 List of Salix in Herbarium Annotated by George W. Argus (CAN) 2000

Project start date: Project end date:

Contact: Cook, Mary Beth Format: plant databases

2001 Provisional List of Lichens that Occur in WRST

Project start date: Project end date:

Contact: Cook, Mary Beth Format: plant databases

2001 Provisional List of Mosses and Liverworts that Occur in WRST

Project start date: Project end date:

Contact: Cook, Mary Beth Format: plant databases

**Edison Association Placer Claims: Three-Year Progress Report** 

Project start date: Project end date:

Contact: Cook, Mary Beth Format:

Field Survey of Proposed Mining Sites on the Malaspina Forelands

Project start date: Project end date:

Contact: Cook, Mary Beth Format:

Final Report on Fieldwork Conducted 23-31 July 1996

Project start date: Project end date:

Contact: Cook, Mary Beth Format: component of floristic

inventory

Results 1996 Field Work for WRST Floristic Inventory

Project start date: Project end date:

Contact: Cook, Mary Beth Format: FIREPRO report

Climatology

#### 1999-2001 Paleoclimate Studies

Project start date: Project end date:

Contact: Rosenkrans, Danny Format:

# 1999-2002 Iceberg Lake Paleoclimate

Project start date: Project end date:

Contact: Rosenkrans, Danny Format: Lithology and age dates,

stratigraphic columns

# 2001 Paleoclimate Study of Mt. Bona

Project start date: Project end date:

Contact: Rosenkrans, Danny Format: Ice cores

# 2002 Remote Automated Climate Stations (RAWS)

Project start date: Project end date:

Contact: Rosenkrans, Danny Format: temperature, wind,

precipitation

Printout date: 1/5/2004

### **FAA Climate Data**

Project start date: Project end date:

Contact: Rosenkrans, Danny Format: Climate

#### **NWS Climate Data**

Project start date: Project end date:

Contact: Rosenkrans, Danny Format: climate data

# **Coastal/ Marine Systems**

# National Marine Fisheries survey of plastic debris on the Malaspina Forelands

Project start date: 19880726

Project end date: 19880728

Contact: Cook, Mary Beth Format: raw data, photocopies,

and maps

Plastic debris found on beaches and at sea often entangle and endanger marine animals, seabirds, and fish. National Marine Fisheries Service has conducted plastic debris surveys on coastal beaches in Alaska since 1972; Yakutat area beaches have been surveyed since 1984. NMFS felt that data from the Malaspina Forelands beaches would provide valuable information on plastics pollution in the Gulf of Alaska and that WRST could use the data to assess quality of these beaches and determine the need for and potential frequency of future monitoring studies by the park. The 1988 survey results showed far less debris than was expected on the Malaspina Forelands beaches, presumably due to the relatively high number of outwash streams on the Forelands, the severity of winter storms there, and/or differences in ocean currents. The most common debris found in this survey were packing straps, trawl web floats, trawl webs, and gill nets. Considering the low incidence of debris on the Forelands beaches, NMFS recommended that WRST monitor these beaches for plastics every three to five years.

#### Contaminants/Hazardous Mat.

### 1984-1987 WRST Hazardous Waste Inventory

Project start date: 19840210

Project end date: 19871119

Contact: Rosenkrans, Danny

Format: Originals and copies of

field forms, data sheets. maps and reports.

WRST conducted a survey and sampling of hazardous waste materials that were abandoned at numerous mining (and other) sites throughout the Park. The project was restricted to publicly owned lands during 1985, 1986 and 1987. Samples were collected in accordance with Environmental Protection Agency safety standards and were subjected to flashpoint testing or laboratory chemical analysis to determine their identity, Ignitable and non-ignitable hazardous liquids sampled had a combined total of 1,693 gallons found in a total of 133 containers. Solid wastes totaled 167,142 pounds and included 10,200 pounds of Q-Broxin, a drilling mud containing highly toxic levels of chromium (Sudden Stream). Explosives were found at seven sites and included 310 pounds of unstable dynamite. The suggested actions were removal of all hazardous materials found, and elimination or mitigation of physical hazards. The alternative to the suggested removal action was no action which would have allowed the hazardous materials to enter the park soils and water, as well as, continue to pose a significant safety risk to park visitors and NPS employees.

### 1985-1992 Sudden Stream Drilling Mud Removal Program

Project start date: 19840801

Project end date: 19950308

Contact: Rosenkrans, Danny Format: Raw data, photocopies

and originals

In 1984 a significant hazardous waste site was discovered near Sudden Stream on the Malaspina Glacier Forelands within the boundaries of Wrangell-St. Elias National Park and Preserve. The major concern at the site was a large pile of unused drilling muds abandoned in a storage shed when the Colorado Oil & Gas Corporation terminated operations in 1962. The structure deteriorated and collapsed exposing bags of drilling mud (400+ tons, wet weight) to weathering for a period 15-20 years. Leaching into the surrounding water and soil was reported, with elevated concentrations of barium and chromium found in soil, water, plant and mollusk tissues. As a result of on-site testing, action was taken during May 1990 to remove the stored materials and approximately 3 to 6 inches of soil beneath the stored materials by BPX and Martech USA, Inc. Subsequent post-cleanup sampling of the area was performed by ENSR, and results indicated that residual contamination of soil and surface water still exists in the immediate area of the former waste pile area. Bioaccumulation of chromium was evident in a small pond immediately adjacent to the former waste pile area. However, the low magnitude and limited area of the residual barium and chromium supported a conclusion that the site does not now pose a significant risk to human health or other environmental receptors. Reserve pits later discovered at the site were sampled for levels of heavy metals contamination, but NPS, Alaska Department of Environment Conservation, and BP Exploration consensus was that remediation work would potentially do more harm to the environment than good, so no removal of hazardous wastes within the reserve pits occurred. Official closure by the Alaska Department of Environmental Conservation of the abandoned exploration site was effective March 8, 1995.

### 1985-1995 Barrel Inventory and Removal Program

Project start date: 2/15/1985 Contact: Rosenkrans, Danny Project end date: 11/30/1995

Format: data inventory and

sampling

In 1984, WRST began a multi-year effort to locate, identify and remove hazardous wastes (HWI) on national park service lands. An offshoot of HWI was the barrel inventory and removal program with the goal of eliminating all unmodified barrels from NPS lands in order to improve the aesthetic quality of the Park/Preserve and to eliminate potential toxic waste incidents. Most affected sites consisted of small fuel caches from abandoned mining operations. Inventory efforts (noting and recording the presence, condition, size, distribution, fluid volume and labels of barrels, in addition to conducting level I hazardous waste surveys at each location) continued for nearly a decade; in 1993, serious cleanup efforts began. In all, 52 sites were visited with 41 of these found to contain barrels, drums, and/or batteries including 506 55-gallon drums, 287 5-gallon barrels, and 46 1-gallon cans. The most effort of all occurred in 1995 when WRST concentrated its staging and removal activities in the four main areas of Nabesna, Chokosna, Ptarmigan Lake and May Creek. Barrels were eventually transported out of the area via helicopter, fixed wing aircraft, and flat bed trucks to aproved toxic waste handling facilities for disposal. As a result of this major and costly effort, WRST adopted a new policy which limits fuel caches to less than 30 gallons on NPS lands and outright prohibited the use of 55-gallon barrels for storage. The new policy was intended to reduce the potential for spills, and in case of abandonment, make cleanup efforts by NPS substantially easier.

### 1985-2001 Explosives Disposal Program

Project start date: 7/8/1985

Project end date: 9/21/2000

Contact: Rosenkrans, Danny

Format: database inventory and

mitigation status

As a result of WRST's 1984 Hazardous Waste Inventory effort, abandoned explosives material from the pre-park mining era (sticks of dynamite, blasting caps, detonation cord, fuses, etc.) were located and identified for removal to eliminate the potential for injury to park employees and users. Mike Shields, Blasting Officer for the Western Region, provided expertise in the disposal of abandoned and deteriorated explosives; plans of operation were completed and supplies ordered that were necessary for safe detonation. Approximately 600 to 800 pounds of dynamite, 800 blasting caps and over 1000 feet of det cord were safely disposed of from ten sites within Wrangell-St. Elias National Park and Preserve.

# 1988-1996 WRST Hazardous Waste Inventory and Removal Program

Project start date: 2/1/1988

Project end date: 3/11/1996

Contact: Rosenkrans, Danny Format: Originals and xerox copies of data sheets, maps, and

reports.

WRST conducted a survey and sampling of hazardous waste materials that were abandoned at numerous mining (and other) sites throughout the Park. The project was restricted to publicly owned lands. Samples were collected in accordance with Environmental Protection Agency safety standards and were subjected to flashpoint testing or laboratory chemical analysis to determine their identity. The suggested actions were removal of all hazardous materials found, and elimination or mitigation of physical hazards. The alternative to the suggested removal action was no action which would have allowed the hazardous materials to enter the park soils and water, as well as, continue to pose a significant safety risk to park visitors and NPS employees.

# Effect of Heavy Metals (Barium and Chromium) in Drilling Muds on Vegetation at Sudden Stream Hazardous Waste Site

Project start date:

Project end date:

Contact: Cook, Mary Beth

Format:

# **Databases/Information Systems**

# **NPSpecies**

Project start date:

Project end date:

Contact: Cook, Mary Beth

Format:

# NRBib (NPBib)

Project start date:

Project end date:

Contact: Sharp, Devi

Format:

#### Other WRST ProCite Databases

Project start date:

Project end date:

Contact: Sharp, Devi

Format:

**PMIS** 

Project start date: Project end date:

Contact: Sharp, Devi Format:

# **Ecology**

### 1994-1999 Paleo-ecology study using tree cores and dating glacial debris

Project start date: Project end date:

Contact: Rosenkrans, Danny Format: tree and organic debris

cores, publications

### 2000 Paleo-ecology Study Using Lake Cores

Project start date: Project end date:

Contact: Rosenkrans, Danny Format:

### Alpine Research Skolai Pass

Project start date: Project end date:

Contact: Rosenkrans, Danny Format: Glacial, climate, vegetation

# **Environmental Monitoring**

# 1984 Kuskulana and Kotsina Trail and Campsite Inventory and Monitoring Protocol

Project start date: 6/18/2002 Project end date: 9/11/2002

Contact: Cook, Mary Beth Format: Original copies,

photocopies, and maps.

1984 inventory of Kotsina Road and Kuskulana Trail backcountry trails and associated campsites to establish baseline data for future management decisions and for evaluating changes that have occurred. Both roads were sampled and assigned an impact class rating according to methods developed by Cole (1983). Campsites located along high-use trails were inventoried and evaluated based on total campsite area, barren ground, vegetation density and composition, litter/duff, tree damage and root exposure, firewood availability, extent of campsite development, cleanliness, number of access trails, visual impact, distance to water, and distance to roads and airstrips. Accession Number WRST-00182.

# 1984-1986 Parkwide Mechanized Trail Inventory

Project start date: 6/10/1984 Project end date: 8/26/1986

Contact: Cook, Mary Beth Format: Originals and photoco

Format: Originals and photocopies of originals of raw data,

reports, and maps.

Data gathered included trail width, percent of trail braiding, slope, percent cover of bare ground, litter, and vegetation, ponding, ponding depth, subsidence, and identification of the vegetative classification for both affected and unaffected trail areas. Accession Number WRST-00180.

### 1984-1987 Ahlstrand and Racine ATV Impact Study

Project start date: 6/4/1984

Project end date: 8/29/1996

Contact: Cook, Mary Beth

Format:

Tests conducted at Wrangell-St. Elias National Park quantified the effects of all-terrain vehicle (ATV) use on a shrub-tussock community. Vehicle track depth increased significantly with increasing passes. Vehicles running on rubber tires created deeper tracks than similar vehicles mounted on continuous rubber tracks. Heavier ATVs usually produced deeper tracks than lighter vehicles. Deeper tracks resulted when vehicle use was spread over a 10-week period during the summer than when the passes were concentrated into shorter time periods near the beginning or end of the snow-free period. Two years after completing the treatments, most of the heavier-used lanes had subsided 2 to 4 cm due to thawing of ice-rich permafrost. Although injury occurred to shrubs continuously throughout the treatments, shrub injury rates were greatest during the first few passes by an ATV. The dwarf shrubs Empetrum nigrum and Vaccinium vitis-idaea were least affected, while the low shrub Betula nana was most susceptible to injury. The degree of sedge tussock compression and amount of organic soil exposed along the ATV tracks increased in relation to vehicle weight.

### 1986-2001 Water and Soils Data for Mining Compliance Activities

Project start date:

Project end date:

Contact: Rosenkrans, Danny

Format: data sheets, lab analysis,

database structures, reports, digital

### 1987 Chisana Area Mechanized Vehicle Trail Surveys

Project start date: 5/18/1987

Project end date: 7/23/1987

Contact: Cook, Mary Beth

Format: Originals and photocopies

of originals of raw data, reports, and maps.

Data gathered included trail width, percent of trail braiding, slope, percent cover of bare ground, litter, and vegetation, ponding, ponding depth, subsidence, and identification of the vegetative classification for both affected and unaffected trail areas. Accession Number WRST-00180.

# 1988 Sudden Stream Drilling Muds Effects on Vegetation

Project start date: 19880706

Project end date: 19880930

Contact: Cook, Mary Beth

Format:

Vegetation was surveyed at the Sudden Stream waste site to describe the effects of drilling mud wastes on the surrounding vegetation, to evaluate plant colonization at the site, and to prepare a vegetative map of the waste area. Because toxic levels of chromium have been found in the ground water near the site and high concentrations of barium were found in soil samples and ground water samples near the site, it was suspected that vegetation would also contain elevated concentrations of barium and chromium in plant tissues. Any plants growing at the site with elevated levels of barium and chromium would be potentially toxic to herbivorous animals. Control site and affected site transects were established, plant identification surveys were conducted and species collections were made. Results indicated that chromium and barium concentrations were elevated for all species when compared with control concentrations. Differences were significant for five of the seven species tested.

### 1989-2001 ATV Impact Assessment and Mitigation Project

Project start date: 1/1/1989

Project end date: 3/1/2001

Contact: Cook, Mary Beth

Format:

Wrangell-St. Elias National Park and Preserve, like other Alaskan ANILCA Parks, is faced with the legal dual requirements of providing reasonable and feasible access to inholders and subsistence users while providing for the protection of the Park's natural and cultural resources and values. At present, most access is accomplished with the use of all-terrain vehicles (ATVs). Throughout the arctic and sub-arctic regions of Alaska, there have been long-standing concerns about the impacts and longterm consequences of ATV use. Research (including within WRST) indicates ATV use degrades soil and vegetative resources, however the amount of impact varies according to vehicle type, amount and season of use, vegetation type, soil ice content, slope and trail configuration.

### 1997 Response of Northern Red-Backed Voles to a Major Spruce Beetle Infestation study

Project start date: 19970520

Project end date: 19980912

Contact: Reid, Mason

Format:

A significant cause of natural mortality of mature spruce forests in Alaska and other regions of North America is the spruce bark beetle. The impact of beetle-induced habitat changes on small mammals is largely unknown. A mark/recapture effort was conducted on voles for 2 field seasons in the Copper River basin of Alaska where infestations are widespread. Estimates of vole abundance, survival, and recruitment were produced in 3 locations that varied in their degree of beetle-induced spruce mortality. Evidence from vole abundance and recruitment estimates suggest that beetle impact on red-backed voles may be negative, but the lack of a large vole survival response to infestations limits conclusive evidence.

#### Fire

#### 1983-1984 FIREPRO Permanent Plots

Project start date: 6/18/1983

Project end date: 9/11/1984

Contact: Cook, Mary Beth

Format: Originals and copies of data sheets and maps.

slides -- Raw Data

The FIREPRO crew accomplishes field work associated with fire management and suppression. When not directly involved in monitoring or suppressing wildland fires, the crew is dedicated to completing a vegetation survey for the Geographical Information System (GIS) group of the Alaska Regional Office, Division of Natural Resources. Accession No. WRST-00125.

# 1983-Present, Fire Reports

Project start date:

Proiect end date:

Contact: Cook, Mary Beth

Format: fire descriptions and maps

#### 1985-1987 FIREPRO Ground Truths

Project start date: 6/11/1985

Project end date: 9/2/1987

Contact: Cook, Mary Beth Format: Originals and copies of

data sheets and maps,

slides -- Raw Data

The FIREPRO crew accomplishes field work associated with fire management and suppression. When not directly involved in monitoring or suppressing wildland fires, the crew is dedicated to completing a vegetation survey for the Geographical Information System (GIS) group of the Alaska Regional Office, Division of Natural Resources. Accession No. WRST-00125.

Printout date: 1/5/2004

# **Fisheries Management**

### 1991 Survey of Fisheries in Summit Lake

Project start date: Project end date:

Contact: Veach, Eric Format:

### 1992 Survey of Fisheries Ptarmigan Lake

Project start date: Project end date:

Contact: Cook, Mary Beth Format:

### 1997-1998 Tanada Creek Fish Weir Project

Project start date: 6/23/1997 Project end date: 8/21/1998

Contact: Veach, Eric Format: Original copies of raw data

From June 23 to July 19 of 1997 and 1998, a portable rigid weir was operated on Tanada Creek, a third order perennial stream and tributary to the upper Copper River in southeast interior Alaska. 1997 is the first year of weir operation in a projected three-year study. Only partial counts were obtained due to delayed installation, limited personnel, and a washout of the weir in a high water event. A total of 20,729 (interpolated to 27,521) sockeye salmon (Oncorhynchus nerka) and 2 chinook salmon (O. tshawytscha) was counted. Only 16 samples for length and sex were sampled for sockeye salmon and did not constitute a representative subsample. The second consecutive year of the weir operation (1998), a total of 28,992 sockeye salmon and 2 chinook salmon were counted. A total of 137 sockeye salmon was sampled for age, length, and sex frequencies. Females comprised 49% of the sample. Approximate mid-eye to fork length for female sockeyes was 540 mm (N=67, SD=30) and 600 mm (N=70, SD=30) for males. Two age groups were present in the sample, with age 1.3 representing 98% of those sampled, and age 1.2 representing 2%; Accession Number WRST-00142.

Printout date: 1/5/2004

### 2001 Fisheries Survey

Project start date: Project end date:

Contact: Veach, Eric Format:

# ADFG Fisheries Surveys conducted prior to the Park

Project start date: Project end date:

Contact: Veach, Eric Format:

### **Sudden Stream Fisheries Analysis**

Project start date: Part of Sudden Stream Hazardous Waste study

Contact: Veach, Eric Format:

#### **Forestry**

## 1986-1988 Chitina District Timber Inventory Study and Harvest Data

Project start date: 8/19/1986

Project end date: 8/27/1988

Contact: Cook, Mary Beth

Format: Originals and copies of raw data and reports.

In Wrangell-St. Elias National Park & Preserve, there has been a continuing demand for the subsistence use of forest resources. Most requests are by local residents for green timber to be used as houselogs or firewood. There are a number of year-round residents and landowners that qualify as subsistence users in the vicinity of several timber stands in the park/preserve, including McCarthy Road, May Crk, Dan Crk, Spruce Point, Chititu Crk, and Young Crk. Silvicultural parameters such as gross volume, current annual productivity, density, mortality, regeneration, and species composition were determined. Accession Number WRST-00181

### 1986-1989 Nabesna District Timber Inventory Study and Harvest Data

Project start date: 5/14/1986

Project end date: 9/26/1989

Contact: Cook, Mary Beth Format: Originals and copies of

raw data and reports.

In Wrangell-St. Elias National Park & Preserve, there has been a continuing demand for the subsistence use of forest resources. Most requests are by local residents for green timber to be used as houselogs or firewood. There are a number of year-round residents and landowners that qualify as subsistence users in the vicinity of several timber stands in the park/preserve, including Chisana, Nabesna Road corridor, Devil's Mountain, Reeve Field, Batzulnetas, and Lost Creek/Trail Creek. Silvicultural parameters such as gross volume, current annual productivity, density, mortality, regeneration, and species composition were determined. Accession Number WRST-00181

# 1988 Yakutat District Timber Inventory Study and Harvest Data

Proiect start date: 8/31/1988

Proiect end date: 9/7/1988

Format: Originals and photocopies Contact: Cook, Mary Beth

of raw data and reports.

In Wrangell-St, Elias National Park & Preserve, there has been a continuing demand for the subsistence use of forest resources. Most requests are by local residents for green timber to be used as houselogs or firewood. There are a number of year-round residents and landowners that qualify as subsistence users in the vicinity of several timber stands in the park/preserve, including the Yakutat area. Silvicultural parameters such as gross volume, current annual productivity, density, mortality. regeneraton, and species composition were determined. Accession Number WRST-00181

# Geochemistry

# 1994-97 Environmental Geochemical Studies of Mineral Deposits

Project start date: 8/6/1994

Project end date: 6/10/1997

Contact: Rosenkrans, Danny Format: Original copies of analysis

sheets.

Principle sample medium was surface water, but rock, mine waste, mill tailings, bedload streamsediment, heavy-mineral concentrate, and precipitate samples were also collected. Water samples collected included: 1) unacidified, filtered raw sample for anion analysis, 2) acidified, unfiltered raw sample for trace and major cation analysis of both dissolved and suspended species, 3) acidified, filtered sample for trace and major cation analysis of dissolved species, 4) acidified, filtered sample for ferrous iron content, and 5) preserved, filtered sample for mercury content. (Data collected: August 6-9, 11-14, 17, 1994; August 8-11, 13-18, 23, 1996; April 29-30, May 1-2, June 10, 1997) Accession number: WRST-00140.

# **NURE Geochemistry**

Project start date:

Project end date:

Contact: Rosenkrans, Danny

Format: analytical results

**Tephra Studies** 

Project start date: Project end date:

Contact: Rosenkrans, Danny Format: Geochemical studies

### **Geographic Information Systems**

### 1989, 1991, 1992 and 1999 FIREPRO Vegetation Intensive Mapping Areas and Units, GIS Thematic Mapping Project

Project start date: 6/25/1989 Project end date: 7/2/1999

Contact: Cook, Mary Beth Format: Originals and copies of

data sheets and maps, slides -- Raw Data

The Anchorage Regional Office Geographic Information System (GIS) staff selected 57 Intensive Mapping Units (IMU) (or Areas, IMA) in Wrangell-St. Elias National Park & Preserve to be mapped using infrared aerial photographs and aerial surveys. This data was used to create a land cover map for the park. Each IMU has a number of polygons (from 10 to 45) which were identified on the aerial photographs and for which data were collected during 1989, 1991 and 1992 field seasons. The FIREPRO ground truth data collected from 1980 to 1988 was used as an ancillary data set for this land cover mapping. Accession No. WRST-00183.

### GIS Spatial Databases (not included in other datasets)

Project start date: Project end date:

Contact: Sharp, Devi Format:

### **Geology - Coastal**

# 1986 & 1997 Geodetic Survey of Coastal Mountains, Alaska

Project start date: Project end date:

Contact: Rosenkrans, Danny Format: Survey data

# 1989-1991Russell Fjord and Hubbard Glacier Surveys

Project start date: Project end date:

Contact: Rosenkrans, Danny Format: survey, monitoring and

photographs

# 1993 Erosion Studies in Icy Bay

Project start date: Project end date:

Contact: Rosenkrans, Danny Format: lithology

### 2001 Plate Tectonics and Erosion in Coastal Alaska

Project start date: Project end date:

Contact: Rosenkrans, Danny Format: maps, satellite survey

# **Geology - General**

### 1974 McCarthy Road Alignment Study

Project start date: Project end date:

Contact: Rosenkrans, Danny Format: Drill hole data surficial

geology

# 1989-1993 Paleomagnetic Studies in WRST

Project start date: Project end date:

Contact: Rosenkrans, Danny Format: Magnetic, age and

lithology data

# 1990-1992 Geology of Chugach and St. Elias Mountains

Project start date: Project end date:

Contact: Rosenkrans, Danny Format: Lithology and age dates,

stratigraphic columns

#### 1994 Nabesna Road Material Site

Project start date: Project end date:

Contact: Rosenkrans, Danny Format: drill hole surficial geology

# 1995-2002 Geology of Mesozoic Basins, Wrangell Mountains

Project start date: Project end date:

Contact: Rosenkrans, Danny Format: Lithology and age dates,

stratigraphic columns

# 1998-2000 Nuzotin Mountains Sequence

Project start date: Project end date:

Contact: Rosenkrans, Danny Format: Lithology and age dates,

stratigraphic columns

Circa 1960's-2002, Surficial geology: quads at 1"=1 mile with good surficial geology, primarily along road corridors

Project start date: Project end date:

Contact: Rosenkrans, Danny Format: lithology and environment

maps

**McCarthy Road Material Site** 

Project start date: Project end date:

Contact: Rosenkrans, Danny Format: drill hole data, surficial

geology

**USGS AMRAP** 

Project start date: Project end date:

Contact: Rosenkrans, Danny Format: geologic maps, field notes

and samples, publications

**USGS** Research

Project start date: Project end date:

Contact: Rosenkrans, Danny Format: geologic maps, field notes

and samples, publications

**Geology - Structural** 

1950-2000 Bedrock geology, numerous quadrangles at 1:63,360 (30) and 1:250000 (9)

Project start date: Project end date:

Contact: Rosenkrans, Danny Format: Lithology, paleotology and

environment

1991 and 1999 Chugach Metamorphic Complex

Project start date: Project end date:

Contact: Rosenkrans, Danny Format: Lithology and structure

data

1991-1993, 1999 Geology and Structure of Chugach Mountains

Project start date: Project end date:

Contact: Rosenkrans, Danny Format: Lithology and age dates,

stratigraphic columns

1992 Wrangell-Triassic Basalt

Project start date: Project end date:

Contact: Rosenkrans, Danny Format: Lithology and age dates,

stratigraphic columns

Circa 1960-1995 Geology of McCarthy Quadrangle

Project start date: Project end date:

Contact: Rosenkrans, Danny Format: Lithology and age dates,

stratigraphic columns

Circa 1960-1995, Geology of Chugach and St. Elias Mountains

Project start date: Project end date:

Contact: Rosenkrans, Danny Format: Lithology and age dates,

stratigraphic columns

Circa 1960-1995, Geology of Chugach Mountains and Valdez Quadrangle

Project start date: Project end date:

Contact: Rosenkrans, Danny Format: Lithology and age dates,

stratigraphic columns

Circa 1960-2001, Geology of Nabesna Quadrangles

Project start date: Project end date:

Contact: Rosenkrans, Danny Format: Lithology and age dates,

stratigraphic columns

Circa 1960-2001, Geology of Wrangell Mountains

Project start date: Project end date:

Contact: Rosenkrans, Danny Format: Lithology and age dates,

stratigraphic columns

**Geophysics** 

1998 Geophysical Survey

Project start date: Project end date:

Contact: Rosenkrans, Danny Format: Geophysical data

# 2000 Thermochronology of Chugach and St. Elias Mountains

Project start date: Project end date:

Contact: Rosenkrans, Danny Format: Geophysical data

# Glaciology

### 1980's Varigated Glacial Monitoring

Project start date: Project end date:

Contact: Rosenkrans, Danny Format: survey, monitoring and

photographs

#### 1988 Paleoclimate and Glaciers

Project start date: Project end date:

Contact: Rosenkrans, Danny Format: Glacial mapping and

dating

### 1990 Glacial Monitoring Aerial Photography

Project start date: Project end date:

Contact: Rosenkrans, Danny Format: photographs

# 1990's Glacial Studies, Bering and Coastal Regions

Project start date: Project end date:

Contact: Rosenkrans, Danny Format:

# 1991-1993 Malaspina Glacier Monitoring Aerial Photography

Project start date: Project end date:

Contact: Rosenkrans, Danny Format: satellite images and

photographs

### 1992 & 1993 WRST Glacier Monitoring

Project start date: Project end date:

Contact: Rosenkrans, Danny Format: aerial photographs,

monitoring, maps and

report

1995-2000 Rock Glacier Studies. Broken Snout and Amazon

Project start date: Project end date:

Contact: Rosenkrans, Danny Format: Survey data, maps, and

photographs, publication

1997-1998 Glacial Monitoring, Malaspina and Yakutat District

Project start date: Project end date:

Contact: Rosenkrans, Danny Format: Photography, age

sampling

**History** 

**Historic Structures Database** 

Project start date: Project end date:

Contact: Bleakley, Geoff Format:

**WRST Administrative History Bibliography** 

Project start date: Project end date:

Contact: Bleakley, Geoff Format:

**Hydrology (Surface)** 

1980's Hidden Creek Lake

Project start date: Project end date:

Contact: Rosenkrans, Danny Format: photographs, survey data

and publications

1994-1995 Hydrologic Conditions & Hazards in the Kennicott River Basin

Project start date: 5/27/1992 Project end date: 9/3/1994

Contact: Rosenkrans, Danny Format: Original copies and

photocopies of raw data.

Monitored and recorded release of Hidden Creek Lake and other Kennicott Basin outburst lakes. Gage heights and hydrograph charts recorded levels of peak stage and peak discharge for the East and

West Forks of the Kennicott River. Accession number: WRST-00151.

1994-2002 Physical Hydrology of Chathenda Creek, Inlet Creek, Francis Creek, and Tanada Creek

Project start date: Project end date:

Contact: Rosenkrans, Danny Format: Cross-sections and flow

### 1998-2002 Hidden Creek Lake and Kennicott River Studies

Project start date: Project end date:

Contact: Rosenkrans, Danny Format: discharge, survey and

photographs

# **Copper River Discharge (USGS)**

Project start date: Project end date:

Contact: Rosenkrans, Danny Format: flow and sediment loads,

channel cross-sections, 12 stations with historic data; 25 years Copper Riv

### **USGS-AKDOT Small Stream Network**

Project start date: Project end date:

Contact: Rosenkrans, Danny Format: crest stage data and

channel cross-sections

### Mammalogy

### 2001-2002 Small Mammal Inventory

Project start date: 20010701 Project end date: 20020831

Contact: Reid, Mason Format:

To find and locate all small mammal species that may potentially inhabit Wrangell-St. Elias National Park and Preserve. The findings from this small mammal inventory, when combined with specimen information gathered from a review of holdings in other major collections, bring the total number of documented small mammal species in Wrangell-St. Elias National Park to 21 of 26 potential species, or about 81% coverage.

# Management/Administration

# 1956 to Present, Aerial Photography Database

Project start date: Project end date:

Contact: Rosenkrans, Danny Format: aerial photographs,

database, flight line maps

#### 1980's-2002 Incidental Business Use Permits

Project start date: Project end date:

Contact: Sharp, Devi Format:

ANCI+ (Rediscovery)

Project start date: Project end date:

Contact: Jesperson, Michelle Format:

**Backcountry Observation Forms** 

Project start date: Project end date:

Contact: Sharp, Hunter Format:

**Compliance Database** 

Project start date: Project end date:

Contact: Hunt, Steve Format:

**Hunting Permits** 

Project start date: Project end date:

Contact: Sharp, Devi Format:

**Park Planning Documents** 

Project start date: Project end date:

Contact: Bleakley, Geoff Format:

Park ProCite Database on T Drive

Project start date: Project end date:

Contact: Cook, Mary Beth Format:

**Pre-Compliance Database Records** 

Project start date: Project end date:

Contact: Hunt, Steve Format:

**Ranger Field Notes** 

Project start date: Project end date:

Contact: Sharp, Hunter Format:

**Ranger Incident Reports** 

Project start date: Project end date:

Contact: Sharp, Hunter Format:

**Section 106 Compliance Records** 

Project start date: Project end date:

Contact: Bleakley, Geoff Format:

**Visitor Use Surveys and Estimates** 

Project start date: Project end date:

Contact: Roberts, Edmond Format:

**WRST Environmental Assessments and Environmental Impact Statements** 

Project start date: Project end date:

Contact: Hunt, Steve Format:

**WRST Resource Management Plan** 

Project start date: Project end date:

Contact: Sharp, Devi Format:

**Minerals Management** 

1957-1999 Aerial Ground Photography for Mining and Access

Project start date: Project end date:

Contact: Rosenkrans, Danny Format: Numerous dates, scales

and flight lines

1970's USBM Minerals Resources WRST Study

Project start date: Project end date:

Contact: Rosenkrans, Danny Format: Geologic maps, field notes

and samples, publications

1980's Mining Claim Inventory

Project start date: Project end date:

Contact: Rosenkrans, Danny Format: location, inventories

1985-2000 Mineral Validity Exams

Project start date: Project end date:

Contact: Rosenkrans, Danny Format: sampling and analysis

1999-2002 Kennecott Ore Deposits

Project start date: Project end date:

Contact: Rosenkrans, Danny Format: AutoCAD files, geology

maps, lithology and structure data, thesis

**Mining Claim Location and Topography** 

Project start date: Project end date:

Contact: Rosenkrans, Danny Format: AutoCAD files with

topography and photography

Ornithology

Bird Data for BRD Component of Spruce Bark Beetle Study

Project start date: Project end date:

Contact: Reid, Mason Format:

Bird Data for NPS Component of Spruce Bark Beetle Study

Project start date: Project end date:

Contact: Reid, Mason Format:

**Malaspina Murrelet Surveys** 

Project start date: Project end date:

Contact: Reid, Mason Format:

#### **Miscellaneous Bird Observation Data**

Project start date: Project end date:

Contact: Reid, Mason Format:

### Other

#### 1982-2001 WRST Research Permits

Project start date: 1/1/1982 Project end date: 12/31/2001

Contact: Sharp, Devi Format: Originals with maps and

raw data.

From WRST Resource Management Plan: "Despite the uniqueness and diversity of Wrangell-St. Elias National Park and Preserve, relatively few scientific investigations have been undertaken resulting in a paucity of information about the environment, its inhabitants and the role park / preserve resources play..." The National Park Service encourages and supports scientific research activities that further purposes for which each unit was established and goals that are identified within each unit's Resource Management Plan. Research permits are made available at the discretion of the superintendent and are to be considered a privilege extended for studies benefitting the unit. Such research must not result in damage to the values or natural or cultural resources for which the unit was established.

### 1988-2001 WRST Special Use Permits

Project start date: 1/1/1998

Project end date: 12/31/2001

Contact: Sharp, Devi

Format: Copies of issued permits

and data.

WRST considers humans to be an integral part of the ecosystem and encourages traditional users of the park and preserve's natural resources to understand and respect ecosystems during their permitted special uses activities.

# Petrology/Mineralogy

### 1996-2000 Mineral Assessment of Ahtna, Inc. Selections

Project start date: 6/16/1997

Project end date: 6/26/1998

Contact: Rosenkrans, Danny

Format: Originial copies of

analysis sheets.

Sampling employed both hard rock & placer techniques. Hard rock sampling included collecting a representative select, grab, or chip sample of host rock for analysis & and hand specimen. Select samples were collected of highly mineralized rock. Grab samples were collected of randam mineral or rock fragments. Chip samples were a collection of either random or representative minerals or rock chips taken across or along mineralized outcrops. Placer sampling consisted of running 1/10 of a cubic yd of gravel through a sluice box, then panning down the concentrates to an approx. 1/2 lb sample size. Accession number: WRST-00152.

Printout date: 1/5/2004

### **Recreation/ Aesthetics**

# 1998 Trail and Campsites Inventory, Skolai Creek and Chitistone Pass

Project start date: Project end date:

Contact: Cook, Mary Beth Format: Reports, field notes, maps

#### Soil Science

Circa 1980's, Copper River and McCarthy Road Corridors

Project start date: Project end date:

Contact: Rosenkrans, Danny Format: soil pit data and maps

Nabesna District Soils

Project start date: Project end date:

Contact: Rosenkrans, Danny Format: soil pit data and maps

# Volcanology/Geothermal

# 1980's to Present, Seismic Studies

Project start date: Project end date:

Contact: Rosenkrans, Danny Format: Seismic data and earth

quake epicenter and

magnitude

# 1993-1996 Wrangell Volcanic Field

Project start date: Project end date:

Format: Lithology and age dates, Contact: Rosenkrans, Danny

stratigraphic columns

#### 1995-2002 Shrub Mud Volcano

Project start date: Project end date:

Format: Gas and water analysis Contact: Rosenkrans, Danny

# 1998-2001 Mt. Wrangell Volcanic Field Hazards

Project start date: Project end date:

Format: Lithology and age dates, Contact: Rosenkrans, Danny

stratigraphic columns

# Circa 1960-2001, Thermoflux on Mt. Wrangell

Project end date: Project start date:

Contact: Rosenkrans, Danny Format: Survey data of ice and

snow volumes,

photography

# **Water Quality**

### 1985-1986 Mining EIS Water Quality

Project start date: Project end date:

Contact: Rosenkrans, Danny Format: analytical results

### 1991-92 Tanada, Copper, and Ptarmigan Lakes Water Quality Surveys

Project start date: 7/7/1991

Project end date: 4/7/1992

Contact: Cook, Mary Beth Format:

Format: Original copies of field forms; electronic database (created November 2002).

Copper and Tanada Lakes were sampled 4 times; Ptarmigan Lake was surveyed once. The following parameters were measured: temperature, dissolved oxygen, light penetration, conductivity, total dissolved solids, pH, alkalinity, hardness, Secchi disk transparency, calcium, magnesium, iron, total phosphorus, total Kjeldahl nitrogen, and reactive silicon. Zooplankton identification, biomass estimates, and phytoplankton samples were collected. A fisheries survey was conducted at Ptarmigan Lake. General wildlife and vegetation surveys were conducted at all three lakes and potential human impacts were recorded. (Data collected: July 7, 10-11, 1991; August 5-6, 15, 17, 1991; September 17, 19, 1991; April 6-7, 1992) Accession number: WRST-00157.

# **Water Quantity**

### 1980-2002 Snow courses, 4 NPS in park, 2 ADFG in park, 6 adjacent to park

Project start date: Project end date:

Contact: Rosenkrans, Danny Format: depth, water content

density

# Wildlife Management

# 1980s Dall Sheep Surveys

Project start date: 1/1/1982

Project end date: 12/31/1985

Contact: Reid, Mason

Format: Photocopies of raw data

and summary data.

Aerial survey counts, using pilot and observer, involved low-level flights over counts areas of Dall sheep within Wrangell-St. Elias National Park. Also included goat counts. Various dates.

# 1982-83 Mentasta Caribou Range: Vegetation

Project start date: 8/10/1982

Project end date: 8/3/1983

Contact: Reid, Mason

Format: Original copies of field forms and summarized

tables.

Six 20 ft by 20 ft exclosures were built in 1982, designed to exclude large ungulates and patterned after 39 exclosures built in the 1950's and 1960 on the adjoining Nelchina caribou range. Plant cover and height was estimated by the point intercept method for six exclosures and biomass by clipped weight for four exclosures. 1982-1983 data was entered into a digital file by Jenkins et al. for the 1993 assessment of this project (see related documents). The 1993 digital files cannot be located. Hard copies of the data and the analysis are on file. (Data collected: August 10, 18, 24, September 3, 1982; June 27-28, August 3, 1983). Accession number: WRST-00175.

Title		Abstract
1984 Bison Study: Vegetat	ion and Pellet Plots	
Project start date: 6/18/1984 Contact: Reid, Mason	Project end date: 7/25/1989  Format: Original copies of field forms.	Analysis of food habits and range conditions of areas used by bison. Vegetation species identified. Species coverage, condition, canopy length, width, and height determined. Moose, bison, and horse pellets documented. The investigator established that vegetation trends be studied every 5 years. Collection also includes data gathered from rereading transects in 1988-1989. Protocol was modified and simplified for the 1988-1989 rereadings. (Data collected: June 18-19, 21-22, July 10-11, 13-14, 24-26, 28-31, August 7-12, 1984; July 26-27, 1987; August 17-18, 20-22, 1988; July 22-25, 1989) Accession number: WRST-00159.
1986-2001 Chisana Cariboເ	ı Herd Surveys	
Project start date: 10/14/1986 Contact: Reid, Mason	Project end date: 1/21/2001  Format: Original copies and photocopies of raw data.	Aerial surveys conducted from 1987 through 2001 (none in 1998) throughout the year to gather data on a multitude of factors concerning the Chisana caribou herd including (but not limited to) composition, density, sex, age, number of bulls by antler class, capture method, drugs, response to drugs, vital stats, physiological data, activity, habitat preferences, group size, live body condition, and carcass descriptions.
1987-2000 Mentasta Caribo	u Herd Surveys	
Project start date: 5/23/1987 Contact: Reid, Mason	Project end date: 9/13/2000  Format: Photocopies of raw data.	Aerial surveys conducted to gather data on radiocollared caribou. Data collected included: signal, location, caribou, antlers, calves, habitat, caribou activity, sex counts, bull counts per antler class, udder counts, number and types of collars present, and parturition. ADF&G participated in annual surveys after 1991. No survey conducted in 1989. Surveys conducted in May, June and September depending upon survey goals.
1989-1999 Breeding Bird S	urveys and Off-Road Point Cour	nts Raw Data
Project start date: 6/6/1989 Contact: Reid, Mason	Project end date: 6/15/1999  Format: Photocopies of raw data.	Depending upon the year of survey, one to eight routes were surveyed from early to mid-June. Each route consisted of 50 stops, located at 0.5 mile intervals along a 24.5 mile section of road. The observer recorded the number of individuals per species, heard or seen, during a 3 minute period. In 1998, landbird monitoring was done in conjunction with the Spruce Bark Beetle Project.
1990 Dall Sheep Surveys		
Project start date: Contact: Reid, Mason	Project end date: Format: Original copies of summary table.	Aerial trend counts, using pilot and observer, involved low-level flights over count areas. Sheep observed were classified as ewe, ram, lamb. Also included counts for adults, ewes and lambs, and combined. Dates: July 25, 1990.
1990-1991 Lynx Data		
Project start date: 4/12/1990 Contact: Reid, Mason	Project end date: 4/2/1991 Format: Photocopies of raw data.	Captured animals radio-collared, weighed, sexed, and measured. Third lower incisor removed for age verification. Blood drawn. (1990: April 12 and 14) (1991: March 8, 10, 17, 19, 24, 26, 31, April 2, 3, 5, 15)

Title		Abstract
1991 Dall Sheep Surveys		
Project start date: 6/25/1991 Contact: Reid, Mason	Project end date: 7/1/1991  Format: Photocopies of raw data.	Aerial trend counts, using pilot and observer, involved low-level flights over count areas 25, 26, 27, 28, 29. Sheep observed were classified as ewe, ram, lamb. Also included terrain descriptions and sheep behavior. Dates: June 25-27, 30, July 1, 1991.
1991 Owl Survey Results		
Project start date: Contact: Reid, Mason	Project end date: Format: Original copies of raw data.	A total of 38 stops (13 daylight stops and 25 night stops) located at 1/2 mile intervals were surveyed for owl species. One observer counted every owl seen within 1/4 mile of stop and every owl heard during the 3 minute period at each stop.
1991 to Present, Snowshoe	Hare Pellet Data	
Project start date: 6/6/1991 Contact: Reid, Mason	Project end date: 7/14/2001  Format: Original copies of raw data and summary table.	50 quadrats (2" x 10' area) placed perpendicular to 1.5 km transects. All "fresh" snowshoe hare pellets found inside quadrat counted. All pellets (both fresh and old) removed from quadrat so future counts represent only the past years accumulation. Data collected included: pellet counts, vegetation, predation. Survey dates: June 6, 13, 1991.
1991-93 Wood Frog Survey	s	
Project start date: 5/20/1991 Contact: Reid, Mason	Project end date: 5/13/1993  Format: original copies of raw data	Frogs were surveyed using calling surveys. Type of wetlands, location, time, air and water temperatures, calling species, and relative abundance were recorded at each site.
1992 Coastal Wildlife Surve	ey	
Project start date: 5/16/1992 Contact: Reid, Mason	Project end date: 7/26/1992  Format: Original copies of raw data.	Boat Surveys: 4 researchers observed and recorded all birds and marine mammals. Observations consisted of species type, number observed, behavior (flying or on water), and on or off transect. Weather and wave conditions recorded. Latitute, longitude, water depth, boat speed, course, and water temperature recorded every 20 minutes. Aerial Surveys: bald eagle occupancy and productivity data was recorded.
1992 Dall Sheep Surveys		
Project start date: 6/30/1992	Project end date: 7/24/1992	Aerial trend counts, using pilot and observer, involved low-level flights over count areas 2, 3, 5, 7, 9,
Contact: Reid, Mason	Format: Original copies and photocopies of raw data and maps.	10, 11, 13, 16, 18, 20, 21, 22, 27. Sheep observed were classified as ewe, ram, lamb. Also includ terrain descriptions, sheep behavior, and horn length. Dates: June 30, July 1, 3-5, 24, 1992.
1992-1993 Nesting Raptor S	Survey	
Project start date: 5/18/1992	Project end date: 7/23/1993	Aerial surveys and ground surveys conducted in May, June, July and August to determine nest occupancy, new nest locations, nesting success and productivity. Nest site photographed; recorded nest condition, number of adults present, number of young produced, nest site habitat and elevation, etc. Played recordings of raptors to elicit territorial responses.
Contact: Reid, Mason	Format: Original copies of raw data plotted on quad maps.	

Title		Abstract			
1992-1993 Wolverine Data	1992-1993 Wolverine Data				
Project start date: 2/19/1992 Contact: Reid, Mason	Project end date: 10/11/1993  Format: photocopies of raw data and maps	Aerial surveys flown to document the distribution and quantity of wolverine tracks encountered (Dates: February 19-21, 1992). Wolverine tracks that intercepted the flight line were recorded on maps. Possible den sites, kill sites, presence of moose, caribou, sheep, or other prey, and observations noted. Captured wolverines (Dates: April 18-21, 1992) were immobilized, fitted with collars, tagged, measured. Blood drawn, ages estimated. Wolverine movements monitored via aerial surveys and averages distances calculated (Dates: April 18-22, May 1, 18, June 5, 18, October 16, 1992 and infrequently from March 9 through October 11, 1993).			
1993 Caribou Exclosure Mo	onitoring: Vegetation				
Project start date: 6/28/1993  Contact: Reid, Mason	Project end date: 7/8/1993  Format: Original copies of field forms and summarized tables.	Percentage of bare ground as well as total plant cover and mean vegetative heights were compared for species of shrubs, dwarf shrubs, graminoids, lichens, forbs, mosses, and lower vascular plants within 28 20x50-cm quadrats placed systematically along three transects inside and outside five ungulate exclosures. This study follows the 1982-1983 Mentasta Caribou Randy Study (see related documents and data) and includes modifications to the 1982 protocol in order to overcome limitations in sampling methods and design. The 1993 digital files cannot be located. Hard copies of the data and the analysis are on file. (Data collected: June 28, 30, July 5-8, 1993) Accession number: WRST-00175.			
1993 Dall Sheep Surveys					
Project start date: 7/23/1993 Contact: Reid, Mason	Project end date: 8/4/1993  Format: Original copies of raw data and maps.	Aerial survey counts, using pilot and observer, involved low-level flights over count areas 2 and 3. Sheep observed were classified as ewe, ewe-like, lambs, rams. Rams further classified by horn length. Observations recorded on standard data forms and survey areas marked on maps. Dates: July 23-25, August 4, 1993.			
1993 Effects of Human Acti	1993 Effects of Human Activity on Golden Eagle Breeding Behavior				
Project start date: 6/13/1993 Contact: Reid, Mason	Project end date: 7/27/1993  Format: Original copies and photocopies of raw data and original copies of analysis sheets.	Behaviors of adult golden eagles were observed at 7 nesting territories. Each nest was observed for 48 hours: for 24 hours observers camped 1/4 mile from nest (Near), and 24 hours 1/2 mile from nest (Far). Behaviors while on the nest include: brooding/shading, feeding, preening, maintaining the nest, sleeping/dozing, standing, empty nest. Includes gyrfalcon data.			
1993 Moose Surveys					
Project start date: 11/16/1993  Contact: Reid, Mason	Project end date: 11/21/1993  Format: Original copies of raw data and summarized tabular data.	Survey area is a 1386 sq. mile area divided into 105 survey units (SU's) averaging 13.2 sq. miles in size. Each SU stratified as having either high, medium, or low moose density. Stratification based on occurrence of moose tracks, habitat quality, and number of moose actually observed in the SU and adjacent similar habitat. From the 105 SU's, a subset was randomly selected and surveyed at more intensity. A randomly selected 2 sq. mile area within subset searched more intensively for generating a sightabiility correction factor (SCF). Survey dates: November 16-17, 20-21, 1993.			

Title Abstract 1993 Protocol Used for Summarizing State Harvest Data Project start date: Project end date: Contact: Cook, Mary Beth Format: 1993-94 Trumpeter Swan Census Report Project start date: 6/4/1993 Project end date: 8/24/1994 Two types of surveys: population and productivity. Population surveys: flown between Aug. 15-31. Survey requires 1 primary observer, 2 secondary observers, 1 pilot. Primary observer tracks flight path Contact: Reid, Mason Format: Printouts of digital data on survey maps, observes swans, records numbers, location, and age composition (adult/cygnet). from data analysis sheets. Secondary observers and pilot search for swans. Productivity surveys: two flights, first one to locate occupied nests in early June; second flight flown Aug. 15-31 to document reproductive success. (Data collected: June 4, August 18, 1993; June 5, August 22, 24, 1994) 1993-96 Bald Eagle Productivity Project end date: 19950802 Project start date: 19930805 Surveys consist of 2 flights: the first to locate occupied nests (occupancy surveys) and the second to document reproductive success (productivity surveys). Occupancy surveys flown in mid-May; Contact: Reid, Mason Format: Original copies of raw data. productivity surveys flown in late July. 1994 Dall Sheep Surveys Project start date: 5/28/1994 Project end date: 7/13/1994 Aerial survey counts, using pilot and observer, involved low-level flights over counts areas 2, 20, 21, 22, 23. Sheep observed were classified as ewe, ewe-like, lambs, rams. Rams further classified by Contact: Reid, Mason Format: Original copies of raw data horn length. Also included goat counts. Observations recorded on standard data forms and survey and maps. areas marked on maps. Dates: May 28-29. June 27-29. July 13. 1994. 1994 Long Term Monitoring of Harbor Seals Project start date: 8/14/1994 Project end date: 8/16/1994 Four different survey methods were used and evaluated in population surveys: transects, minimum counts, double counts, aerial photography. Transects were flown in a zig-zag pattern, a circle pattern, Contact: Reid. Mason Format: Original copies of data: and a random sample of 6 out of 12 parallel lines over the main aggregation. Report contains 1994 counts, aerial line results and recommendations for 1995. transects, photography loas 1995 Dall Sheep Surveys Project start date: 7/21/1995 Proiect end date: 8/7/1995 Aerial survey counts, using pilot and observer, involved low-level flights over counts areas 11, 12, 13, 14, 15. Sheep observed were classified as ewe, ewe-like, lambs, rams. Rams further classified by Contact: Reid, Mason Format: Original copies of raw data horn length. Observations recorded on standard data forms and survey areas marked on maps. and maps. Dates: July 21, 23, August 7, 1995.

Title		Abstract			
1996 Dall Sheep Surveys					
Project start date: Contact: Reid, Mason	Project end date: Format: Original copies of raw data and maps.	Aerial survey counts, using pilot and observer, involved low-level flights over counts areas 11 (eastern portion), 12, and 13 (portion). Sheep observed were classified as ewe, ewe-like, lambs, rams. Rams further classified by horn length. Observations recorded on standard data forms and survey areas marked on maps. Dates: July 26, 1996.			
1996 Mentasta Caribou Hero	1996 Mentasta Caribou Herd Bone Collection Analysis				
Project start date: Contact: Reid, Mason	Project end date: Format: Original copies of raw data.	Upper ends of both the metacarpel and metatarsal were cleaned off to solid bone. The lower knuckle was kept intact for the first measurement, then carefully removed to the solid bone for the second measurement. Care must be taken to get consistent results on bone length as the bones are fairly soft on new calves, and can accidentally be removed.			
1996 Moose Surveys					
Project start date: 11/21/1996 Contact: Reid, Mason	Project end date: 11/23/1996  Format: Original copies of raw data.	1/4 mile contours at approx. 300 above ground level flown at 2-3 minutes/sq. mile with intensive units of 3-5 minutes/sq. mile. Thirteen units randomly selected as sightability correction factor (SCF) subunits surveyed. Survey dates: November 21-23, 1996.			
1996-1998 Wolf Data					
Project start date: 2/19/1996 Contact: Reid, Mason	Project end date: 5/5/1998  Format: Originals and photocopies of raw data.	In 1996 (sporadically from February 19 to December 12) active radio frequencies scanned and located. Attempts made to visually id wolf, count other wolves present, determine colors of wolves, and make other observations, such as den sites, kills. Wolves were captured, darted, studied, and collared. Data collected included: location, pack #, drug/dose, physical characteristics, measurements, radiocollar info, samples collected. In 1997 (sporadically from January 22 to July 31) and 1998 (only January 21 and May 5), radioed wolves with active radio frequencies were located; wolves were visually identified where possible, non-radioed wolves were counted where possible, color determinations were made. Other observations such as den sites and kills were noted.			
1997 Moose Surveys					
Project start date: 11/5/1997 Contact: Reid, Mason	Project end date: 11/8/1997  Format: Original copies of raw data.	"No Strat" technique utilized. Area between 300-500 sq. miles selected and divided into sampling units. Smaller subsample of 2-3 sq. miles randomly selected to determine sightability correction factor (SCF). Entire area flown at an eleveation of 300' AGL. Survey intensity approximately 2 minutes of survey effort for each sq. mile for entire area. Moose observed were sequentially numbered and the number, sex, antler size class (small, medium, large bulls), number of calves (0, 1, 2) with cows were recorded. Survey dates: November 5-6, 8, 1997.			
1998 Dall Sheep Surveys					
Project start date: 7/24/1998 Contact: Reid, Mason	Project end date: 8/5/1998  Format: Original copies of raw data and maps.	Aerial survey counts, using pilot and observer, involved low-level flights over counts areas 7, 9, 22. Sheep observed were classified as ewe, ewe-like, lambs, rams. Rams further classified by horn length. Observations and lat-longs recorded on standard data forms and survey areas marked on maps. Dates: July 24, 28, August 4-5, 1998.			

Title		Abstract
1998 Moose Surveys		
Project start date: 10/29/1998 Contact: Reid, Mason	Project end date: 10/31/1998  Format: Original copies of raw data.	Area divided into numerous small (9-14 sq. mile) sampling units. A random subset of 2 sq. mile area within the larger units used to determine sightability correction factor (SCF). Entire area flown at elevatin of 150-300 feet AGL. Overall survey intensity was about 2 minutes for each sq. mile of survey area. Intensive survey units were surveyed at 10-15 minutes per sq. mile. Moose observed were sequentially numbered and the total number of animals, number of each sex, number of bulls in each antler class (small, medium, large), and number of calves with each cow recorded. Survey dates: October 29-31, 1998.
1999 Dall Sheep Surveys		
Project start date: 1/1/1999 Contact: Reid, Mason	Project end date: 12/31/1999  Format: Original copies of raw data and maps.	Aerial trend counts, using pilot and observer, involved low-level flights over designated counts areas. Sheep observed were classified as ewe, ewe-like, lambs, rams, unidentified. Rams further classified by horn length. Observations and lat-longs recorded on standard data forms and locations marked on maps. Various dates.
2000 Dall Sheep Surveys		
Project start date: 6/29/2000 Contact: Reid, Mason	Project end date: 8/2/2000  Format: Original copies of raw data and maps.	Aerial trend counts, using pilot and observer, involved low-level flights over counts areas 7, 9, 22, 23. Sheep observed were classified as ewe, ewe-like, lambs, rams, unidentified. Rams further classified by horn length. Observations and lat-longs recorded on standard data forms and locations marked on maps. Dates: June 29, July 18-19, August 2, 2000.
2000-2001 Bear-Human Inte	eractions in McCarthy-Kennecott	Vicinity
Project start date: 20000102 Contact: Reid, Mason	Project end date: Format:	Wrangell-St. Elias National Park and Preserve is experiencing rapidly increasing development along the McCarthy Road and in the McCarthy-Kennecott area. The National Park Service acquired the majority of the historic Kennecott Mill Site in 1998. Consequently, the area has become the focus of numerous changes, including road improvements, increased tourist traffic, facilities designed to accommodate Park visitors, new residences, and private land developments. These factors have a strong potential to negatively affect the resident bear populations and to dramatically increase the amount of bear-human conflicts in the area.
2001 Dall Sheep Surveys		
Project start date: 7/22/2001 Contact: Reid, Mason	Project end date: 7/26/2001  Format: Photocopies of raw data.	Aerial counts, using pilot and observer, involved low-level flights over "sample units" 6 and 7. Sheep observed were classified as ewe, ram, yearling or lamb. Rams were further classified by extent of curl. Dates: July 22 and 26 of 2001.
2002 Dall Sheep Surveys		
Project start date: Contact: Reid, Mason	Project end date: Format: Photocopies of raw data.	Aerial counts, using pilot and observer, involved low-level flights over designated Count Areas. Sheep observed were classified as ewe, ram, yearling or lamb. Rams were further classified by extent of curl.

**Harvest Records** 

Project start date: Project end date:

Contact: Reid, Mason Format:

**Monitoring of Upper Chitina River Range Conditions** 

Project start date: Project end date:

Contact: Reid, Mason Format: Data sheets, summary

report

**Mountain Goat Surveys** 

Project start date: Project end date:

Contact: Reid, Mason Format:

Small Mammal Survey Component of Spruce Bark Beetle Study

Project start date: Project end date:

Contact: Reid, Mason Format: